

15.0 SOCIAL ISSUES AND ENVIRONMENTAL JUSTICE

This section describes the existing social environment in the project area and assesses the potential social impacts of the proposed pike eradication project on the Portola and Plumas County communities. The focus of this section is an analysis of environmental justice, which refers to the fair and equitable treatment of individuals regardless of race, ethnicity, or income level in the development and implementation of environmental management policies and actions. Therefore, the key socioeconomic parameters addressed here are local demographics, including population and race/ethnicity; and measures of social and economic well-being, including per capita income and poverty rates. This section is closely related to Section 12, Economic Resources, where related socioeconomic data and analysis are presented. It also incorporates some of the findings of Section 14, Human and Ecological Health Concerns, in the context of environmental justice.

15.1 Environmental Setting/Affected Environment

This section provides a demographic overview of the local area residents, which will be used in an analysis of environmental justice impacts. The geographic scope of the information presented includes Portola, the nearest community in proximity to Lake Davis and Plumas County.

15.1.1 Population Trends and Projections

Plumas County is located in rural northeast California and is sparsely populated. As shown in Table 15.1-1, the total population in Plumas County in 2005 was 21,231 persons, ranking it the 50th most populous county in the state (out of the state's 58 counties) (California Department of Finance 2005a). As the only incorporated jurisdiction in the county, Portola had a population of 2,170 persons in 2005. The total population in Plumas County accounts for less than 0.1 percent of the state's total population of just over 36.8 million.

Population growth in the project vicinity has been limited over the past couple of decades. In Plumas County, population increased by a total of 5.5 percent between 1990 and 2000, and only 2.0 percent between 2000 and 2005. Population trends in Portola have fluctuated since 1990, with population increasing minimally (1.6 percent) during the 1990s and declining by 2.6 percent since 2000. Population growth at the state level has been substantially higher, increasing by nearly 24 percent cumulatively since 1990.

Table 15.1-1. Population and Population Growth (1990–2005)

Area	Population			Population Growth (%)	
	1990	2000	2005	1990–2000	2000–2005
Plumas County	19,739	20,824	21,231	5.5%	2.0%
City of Portola	2,193	2,227	2,170	1.6%	-2.6%
State of California	29,758,213	33,871,648	36,810,358	13.8%	8.7%

Sources: California Department of Finance (Demographic Research Unit) 2002 and 2005a.

Population projections through 2030 for Plumas County and California are shown in Table 15.1-2.¹ It is projected that the population in Plumas County will increase slightly through 2010 and then decrease beyond 2010. More specifically, population is expected to decline by 0.4 percent between 2010 and 2020 and by 3.1 percent between 2020 and 2030 (California Department of Finance 2004). At the state level, high growth rates are expected, with population projected to grow consistently over the next three decades, increasing by 42 percent cumulatively through 2030 (relative to 2000 levels).

Table 15.1-2. Population Projections (2000–2030)

Area	Population			Population Growth (%)		
	2010	2020	2030	2000–2010	2010–2020	2020–2030
Plumas County	21,067	20,983	20,330	1.2%	-0.4%	-3.1%
State of California	39,246,767	43,851,741	48,110,671	15.9%	11.7%	9.7%

Sources: California Department of Finance (Demographic Research Unit) 2004.

15.1.2 Race/Ethnicity

Race (or ethnicity) is an important consideration for evaluating potential environmental justice-related effects of the project alternatives. The racial and ethnic composition of the Plumas County and statewide populations are presented in Table 15.1-3. Generally, the racial/ethnic makeup of the local project vicinity is much less diverse than statewide conditions. The predominant racial group in Plumas County is White (Caucasian), comprising roughly 89 percent of the countywide population (California Department of Finance 2005b). The other racial groups, combined, represent only about 11 percent of the local population, led by Hispanics/Latinos (5.6 percent of the total population) and American Indians/Alaska Natives (2.1 percent). In California, Whites account for only 47 percent of total population, while Hispanics/Latinos account for about 32 percent.

Table 15.1-3. Race/Ethnicity (2003)

Area	Race (Percent of Total Population)						
	White	Black/ African American	American Indian/ Alaska Native	Asian	Native Hawaiian/ Pacific Islander	Multi- Race	Hispanic/ Latino
Plumas County	89.1%	0.6%	2.1%	0.5%	0.1%	1.9%	5.6%
State of California	47.4%	6.5%	0.5%	10.9%	0.3%	1.9%	32.4%

Sources: California Department of Finance (Demographic Research Unit) 2005b.

¹ Population projections are not available for Portola.

15.1.3 Income-Related Measures of Social Well-Being

As derivatives of total personal income, per capita and median household income and poverty rates represent widely used economic indicators of social well-being. Table 15.1-4 presents these socioeconomic data for the project vicinity and California. In 2003, per capita personal income in Plumas County was \$28,013, which is about 19 percent less than the statewide level of \$33,415 (California Department of Finance 2006). Based on these figures, per capita personal income in Plumas County ranked 25th in the state. The disparity between local and statewide conditions is greater in the context of median household income. Based on 2000 Census data (1999 dollars), median household incomes in Plumas County and California were \$36,351 and \$47,493, respectively. Median household income levels are even lower in Portola at \$28,103. Finally, poverty rates represent the percentage of an area's total population living at or below the poverty threshold established by the U.S. Census Bureau. Based on 2000 Census data, the poverty rate was 14.5 percent in Portola, 9.0 percent in Plumas County, and 10.6 in the state of California.

Table 15.1-4. Income and Poverty Rates

Area/Region	Per Capita Income (2003)	Median Household Income (1999)	Poverty Rate (1999)
Plumas County	\$28,013	\$36,351	9.0%
City of Portola	N/A	\$28,103	14.5%
State of California	\$33,415	\$47,493	10.6%

Sources: California Department of Finance (Demographic Research Unit) 2006

N/A: Not Available

15.1.4 Regulatory Environment

The U.S. Environmental Protection Agency's (USEPA) Office of Environmental Justice offers the following definition of environmental justice:

“The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, State, local, and tribal programs and policies.”

Executive Order 12898, “*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*,” requires each federal agency to incorporate environmental justice into its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including social or economic effects, of its programs, policies, and activities on minority populations and low-income populations of the United States (Council on Environmental Quality 1997). As such, environmental justice is considered part of the NEPA process.

The U.S. Department of Agriculture (USDA) provides direction to its agencies, including the U.S. Forest Service, for integrating environmental justice considerations into their programs and activities in compliance with Executive Order 12898. USDA's implementation policy regarding the Order includes the following provisions:²

- USDA agencies are to ensure that, to the greatest extent practicable, minority and low-income populations do not experience disproportionately high and adverse effects from USDA programs and activities. USDA agencies also should identify and use opportunities to reach out to such populations and promote USDA programs and activities that positively affect their health and environment;
- Efforts to address environmental justice are not limited to NEPA compliance;
- To the greatest extent practicable, USDA agencies are to work within existing environmental and other programmatic frameworks to ensure environmental justice and participation of minority and low-income populations in decisions that affect their health or the quality of their environment. This includes, but is not limited to, agencies incorporating environmental justice considerations into their NEPA compliance processes;
- Continual evaluation of the effect of USDA programs and activities on the environment and health of minority and low-income populations is an important component of environmental justice. USDA agencies shall review and revise as necessary agency decision-making processes to ensure incorporation and full consideration of the effects that agency decisions may have on minority and low-income populations;
- USDA agencies shall develop appropriate criteria consistent with USDA's environmental justice implementation strategy for determining whether the agency's programs and activities have, or will have, a disproportionately high and adverse effect on the health or the environment of minority or low-income populations;
- To the greatest extent practicable, USDA agencies shall collect, maintain, and analyze sufficient data, including, but not limited to, race, national origin, or income level, to determine whether agency programs and activities have disproportionately high and adverse human health or environmental effects, either directly or indirectly, on minority populations and low-income populations. To the degree practicable, agencies shall avoid duplication of data collection and analysis; and
- USDA agencies shall, whenever practicable and appropriate, collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fishing, hunting or trapping for subsistence. Agencies shall communicate with the public the risks of these consumption patterns, including publishing guidance reflecting information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or wildlife.

An environmental policy has been established by the State of California Resources Agency, which includes the DFG, the lead agency under CEQA for this project. The Resources Agency Environmental Justice Policy provides that it is the policy of the Resources Agency

² U.S. Department of Agriculture, Departmental Regulation Number 5600-002, December 15, 1997.

that the fair treatment of people of all races, cultures and income shall be fully considered during the planning, decision-making, development and implementation of all Resources Agency programs, policies and activities. The intent of this policy is to ensure that the public, including minority and low-income populations, are informed of opportunities to participate in the development of all Resources Agency programs, policies and activities, and that they are not discriminated against, treated unfairly, or caused to experience disproportionately high and adverse human health or environmental effects from environmental decisions. Therefore, the DFG as a department of the Resources Agency must consider environmental justice in its decision-making process if its actions would have an impact on the environment, environmental laws, or policies. As such, environmental justice will be considered in DFG's decision-making process for the proposed project. However, under CEQA economic and social changes resulting from a project are not treated as significant impacts on the environment. Section 15131 of the CEQA Guidelines includes:

“Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes. Economic or social effects of a project may be used to determine the significance of physical changes caused by the project.”

15.2 Environmental Impacts and Consequences

This section describes how the project alternatives would affect social conditions in the local project area and addresses whether any group of people, including racial, ethnic, or socioeconomic group, would bear a disproportionate share of adverse environmental effects from implementation of any of the action alternatives as required by Executive Order 12898. The section begins with an overview of the key social considerations in the project area and establishes criteria to gauge social impacts. Subsequently, it describes the methodology and assumptions used in the impact analysis. The analysis of project impacts, including cumulative effects, is organized by project alternative. The section concludes with a summary of impacts.

15.2.1 Evaluation Criteria and Environmental Concerns

In the following analysis, an assessment is made regarding the magnitude of changes in different economic variables. Under CEQA, economic and social impacts are not considered significant effects on the environment. Therefore, there is no guidance in the Initial Study checklist included in the CEQA Guidelines and no “significance determinations” are made or mitigations required in the impact analyses. Under NEPA, an analysis of social, economic, and environmental justice effects is required; however, there is no standard set of criteria to evaluate economic impacts (see Section 12.1.6).

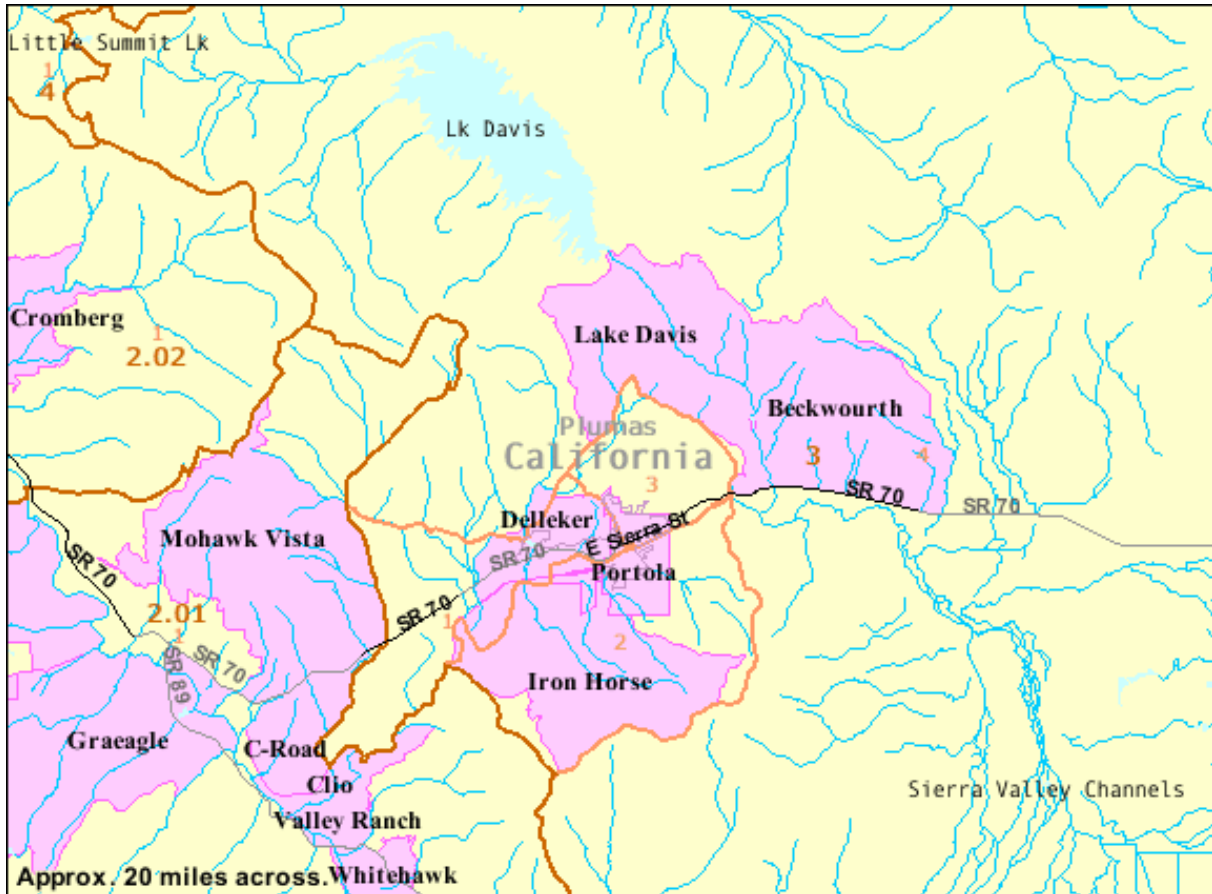
The main issue in the context of environmental justice is whether implementation of the project alternatives would result in adverse environmental or economic impacts that fall disproportionately on low-income or minority populations in the project area. For this analysis, and based on the federal guidance and professional judgment, the following criteria are used to evaluate potential impacts and their magnitude (i.e., substantial or not).

- Are affected resources used by a minority or low-income community;
- Are minorities or low-income communities disproportionately subject to environmental, human health, or economic impacts; and
- Do the resources affected by the project support subsistence living?

15.2.2 Evaluation Methods and Assumptions

The analysis of social concerns, including environmental justice, is based on an understanding of how the resources at Lake Davis are used (e.g., recreation) and by whom, as well as the indirect economic effects on the local community. This includes the dependence of individuals and businesses on the Lake Davis resource. Based on these parameters, a qualitative analysis of social and environmental justice concerns was conducted.

A review of the project's background material was conducted to identify the appropriate level of data analysis required to understand whether low-income or minority populations around the project area, especially in Portola, could be disproportionately adversely affected by the project's impacts. Using data from the U.S. Census Bureau, an analysis was carried out to compare the ethnic/racial compositions and poverty levels in the communities near Lake Davis with those in Plumas County. Figure 15.2-1 presents the locations of the Portola City and the four Census Designated Places (CDPs) in the vicinity of Lake Davis, namely Lake Davis CDP, Beckwourth CDP, Delleker CDP, and Iron Horse CDP, that comprise the geographic area of analysis. In order to supplement this information, GIS tools were employed to analyze and illustrate the ethnic/racial composition of smaller geographic areas, including census block groups and census blocks in the vicinity of Lake Davis. In this way, potential pockets of minority communities can be identified that may not be apparent when analyzing aggregated data on city and county levels. The same method was used to identify pockets of poverty in the area, based on poverty rates.



Source: U.S. Census Bureau 2000.

Figure 15.2-1. Cities and Census Designated Places (CDPs) in the Vicinity of Lake Davis, Plumas County, California

The primary uses of Lake Davis include recreation, water supply for Portola and Grizzly Lake Resort Improvement District (GLRID), irrigation, and the benefit of fish and wildlife (including the DFG managed trout fishery). Based on these uses, the project may potentially impact the residents of Portola and other unincorporated areas in the vicinity of the reservoir, visitors to the reservoir for recreation purposes, and local business owners.

Available data on recreationists suggest that a large number of visitors to the area come from Reno. However, there is insufficient information regarding the racial/ethnic composition or income levels of this group for the analysis.

Water from Lake Davis can be delivered via a direct pipeline to a Plumas County Water Treatment Plant for municipal uses. However, the treatment plant has not operated since 1997, and no water has been delivered from Lake Davis to the treatment plant since then. Construction and approval of a new treatment plant is anticipated as early as mid-to-late 2007. When it is approved, it would be available to receive water deliveries from Lake Davis (Dwyer, personal communication, 2006) (Hunter, personal communication, 2006).

Since timber and cattle grazing make up the majority of agriculture within 0.5 mile of the project location, and no water diversions for farmers are dependent on Lake Davis, there

would not be a considerable affect on farming by any water supply delays caused by the project. However, as noted in Section 13, Public Services, these water supply impacts vary by alternative.

Some short-term impacts to surrounding populations and visitors related to the rotenone treatment of the reservoir, as identified by the community through public comments, are deficiency in the supply of water due to delay in completion of water treatment facility, inferior water and air quality, loss of recreation income to the local economy, slide in real estate values and diminished resale opportunities due to negative perception of Portola and environs, and decreased community services. However, as discussed in Section 12, in the long term and after pike have been successfully eradicated from Lake Davis, the communities in the vicinity of the project area would benefit from increased recreation income and fiscal revenues, leading to a beneficial impact on the region's economy.

Ongoing firewood collection occurs along roadways within the PNF as discussed in Section 8.2.4.5. It is reasonable to assure that low-income people participate in this activity.

As discussed in Section 14, Human and Ecological Health Concerns, the population residing up to 500 meters and 1,000 meters away from the treatment area could experience significant adverse human health impacts (based on the conservative Screen3 air quality model) when Noxfish[®] is used under the Proposed Project and all alternatives, except Alternative E. These effects would not occur if the rotenone formulation CFT Legumine[®] is used. This is due to the potential for inhalation of naphthalene caused by volatilization of rotenone formulation or dust into air following dilution in the reservoir. This short-term impact is mitigable. Also, under Alternatives C and D, there are significant impacts from odor resulting from treatment on populations residing up to at least 1,000 meters away from the reservoir. These impacts are, however, mitigable.

The area within a 2,000 meter radius of the treatment area is sparsely populated with scattered cabins and primarily summer homes (especially in the Lake Davis Highlands subdivision). According to data from the U.S. Census Bureau, the total population for this area was 46 people in year 2000. The total housing units in the area were estimated to be 121, with only 21 occupied year round. The vast majority of the other 100 houses are described as "for seasonal, recreational, or occasional use." Given that most of the houses are second homes and/or of higher value, it is safe to assume that the resident population within this area is not a low-income population. Consequently, this concern is not evaluated in the impact analysis.

Additionally, U.S. Census Bureau data for the area suggests that of the 46 people residing within the 2,000 meter buffer in year 2000, only one person was African-American and three (including one American Indian) were Hispanic. This implies that the area does not have a concentration of racial or ethnic minorities. Therefore, this section does not analyze the environmental justice of human health effects in more detail or by alternative.

In order to assess whether the socioeconomic effects or impacts of the project alternatives are appreciably more severe in magnitude or are predominantly borne by a minority population, in comparison with a population that is not minority, the racial/ethnic composition of Portola, Lake Davis, Beckwourth, Delleker, and Iron Horse are compared to that in Plumas County and the State of California. The comparative analysis suggests that, in general, the

percentages of minorities in Portola, Lake Davis, Beckwourth, Delleker, and Iron Horse are similar to or lower than those in Plumas County in most cases (see Table 15.2-1). For Portola, the Asian population is higher as a percent than in Plumas County, but is still a very small percent at 1.1 percent compared to the county percent of 0.5. Similarly, the percentages of Portola and Delleker populations reporting ‘some other race’ and ‘two or more races’ are higher than the county percentage, but in neither case are the populations more than six percent of the total populations of the two areas. People of Hispanic origin in Portola represent just under 12 percent of the total population in the city, while those in Delleker comprise about 16 percent of the total population in the CDP. These proportions are higher in comparison with the six percent Hispanic population in Plumas County, but when compared with the state (32.4 percent), this does not represent a significant minority population. Lake Davis has a higher percent of Black and Hispanic population than the county, but in these cases it is because Lake Davis population is so small, that only one or two people represent a noticeable change in total percentage. Similarly, Beckwourth has a population of three Native Hawaiian or other Pacific Islanders, representing a higher percent of the total than either the county or state, but it is still less than one percent of the total population.

Table 15.2-2 compares the per capita incomes, median household incomes, and poverty rates of Portola, Lake Davis, Beckwourth, Delleker, and Iron Horse with those in Plumas County and the State of California. While poverty rate data are not available for Lake Davis and Beckwourth, Portola, Delleker and Iron Horse have higher poverty rates than Plumas County and the State of California.

The analysis of GIS maps mirror the findings of the comparative analysis for Portola, Delleker and Iron Horse. The three census block groups containing the three areas show considerably higher poverty rates compared with Plumas County. However, poverty rates in the census block groups closer to the project area, containing Lake Davis and Beckwourth, are seven percent, two percentage points lower than the county rate. Because the project area in economic terms may be considered Portola, the project area is determined to contain a low-income population. Consequently, the environmental justice issue relates to the potential for impact to low-income households.

15.2.3 No Project/No Action

Under the No Project/No Action Alternative, no economic impacts would occur in the short term since the recreation fishery declines would be offset by other recreation activity increases from population growth and the DFG education activities, and consequently recreation income will not be affected (see Table 12.2-1). However, in the long term, the residents of Portola and surrounding areas are likely to experience adverse economic impacts to regional income and employment relative to existing conditions either directly or indirectly. This is primarily based on a loss of recreation income over time, as the pike population continues to prey on other desirable fish such as trout. As stated in Section 12.2.3.1, over the next 20 years, losses of about \$0.15 million in output, \$90,500 in income, and 4 jobs per year (expressed in average annual terms) is expected compared to existing conditions. This represents a 7.0 percent decline in average annual economic activity compared to existing conditions. Losses of about \$3,300 (or -7.0 percent) in local taxes are also anticipated compared with existing conditions, accounting for less than 1.0 percent of

**Table 15.2-1. Population by Ethnic and Racial Groups –
California, Plumas County, Portola, and Selected Unincorporated Areas**

	California	Plumas County	Portola	Lake Davis CDP	Beckwourth CDP	Delleker CDP	Iron Horse CDP
2000 Population	33,871,648	20,824	2,227	23	342	674	321
One Race	32,264,002 (95.3%)	20,280 (97.4%)	2,145 (96.3%)	23 (100%)	336 (98.2%)	635 (94.2%)	309 (96.3%)
White	20,170,059 (59.5%)	19,113 (91.8%)	1,920 (86.2%)	22 (95.7%)	321 (93.9%)	580 (86.1%)	298 (92.8%)
Black or African American	2,263,882 (6.7%)	130 (0.6%)	10 (0.4%)	1 (4.3%)	-	5 (0.7%)	2 (0.6%)
American Indian and Alaska Native	333,346 (1.0%)	530 (2.5%)	59 (2.6%)	-	7 (2%)	30 (4.5%)	2 (0.6%)
Asian	3,697,513 (10.9%)	110 (0.5%)	24 (1.1%)	-	-	2 (0.3%)	-
Native Hawaiian or Other Pacific Islander	116,961 (0.3%)	20 (0.1%)	2 (0.1%)	-	3 (0.9%)	-	-
Some other race	5,682,241 (16.8%)	377 (1.8%)	130 (5.8%)	-	5 (1.5%)	18 (2.7%)	7 (2.2%)
Two or more races	1,607,646 (4.7%)	544 (2.6%)	82 (3.7%)	-	6 (1.8%)	39 (5.8%)	12 (3.7%)
Ethnic – Hispanic or Latino (of any race)	10,966,556 (32.4%)	1,177 (5.7%)	263 (11.8%)	2 (8.7%)	10 (2.9%)	109 (16.2%)	18 (5.6%)

Source: U.S. Census Bureau 2000.

Note: Numbers in parenthesis present percentage of total population

Table 15.2-2. Income and Poverty Rates

Area/Region	Per Capita Income (1999)	Median Household Income (1999)	Poverty Rate (1999)
State of California	\$22,711 (\$33,415 in 2003)	\$47,493	10.6%
Plumas County	\$19,391 (\$28,013 in 2003)	\$36,351	9.0%
City of Portola	\$14,734	\$28,103	14.5%
Lake Davis CDP	N/A	N/A	N/A
Beckwourth CDP	\$16,928	\$47,813	N/A
Delleker CDP	\$15,848	\$37,500	\$11.2%
Iron Horse CDP	\$11,732	\$30,208	14.0%

Sources: U.S. Census Bureau, 2000 and California Department of Finance (Demographic Research Unit) 2006.

N/A: Not available

the operating budget of the City of Portola. No change is expected in terms of water supply costs and benefits, nor any affect on property values (consistent with the discussions in Sections 12.2.3.2 through 12.2.3.5). Recreational fishing opportunities would decline with the population if trout and other desirable fish species would continue to decline. Since fishing locally is a relatively inexpensive recreational activity, lower income people could be disproportionately affected by loss of local fishing opportunities than higher income people who are more able to travel to alternate fishing locations.

Concerning the fishery resource, and whether it supports subsistence living, while fishing by low-income households at Lake Davis is likely, it is unlikely that this fishing occurs at a “subsistence level.” Subsistence level means the low-income fishers would rely on fish from Lake Davis as a major food source. Given the declines in angling in recent years, it is concluded that Lake Davis does not support subsistence level fishing at present. However, with the decline in the fishery under No Project, there would be no opportunity for subsistence fishing in the foreseeable future.

Under the No Project/No Action Alternative, no economic impacts would occur in the short term relative to existing conditions, since recreation income will not be affected adversely. However, in the long term, low-income people would be adversely impacted because of declining low cost recreational opportunities. Also, local employment is likely to decline, potentially adversely impacting environmental justice issues, since the low-income population (Portola residents) will suffer disproportionately to residents of Plumas County and elsewhere in California.

15.2.4 Proposed Project/Proposed Action – 15,000 Acre-Feet (Plus Treatment)

Under the Proposed Project, the water level in Lake Davis would be lowered to 15,000 acre-feet, and the reservoir would be treated with liquid rotenone to eradicate the population of

pike. As presented in Section 2.3, project implementation would commence with reservoir drawdown beginning in January 2007, followed by rotenone application starting sometime between mid-August and late October of 2007. The time to refill is dependent on hydrologic conditions with a 75 percent likelihood of refill by 21 months post-treatment.

The information in Section 15.2.2 suggests that racial and ethnic minorities are present in the geographical study area and may be economically affected by the Proposed Project and alternatives, similar to the rest of the population. However, these minority populations are scattered throughout the area and their numbers are proportionately lower than those in the State of California. In addition, there is no evidence of high minority representation in affected economic sectors such as recreation. Consequently, the analysis concludes that there are no minority populations that are expected to be disproportionately impacted from the Proposed Project. However, low-income residents could be disproportionately adversely affected by temporary loss of low-cost recreation.

The Proposed Project may adversely impact the economy of Plumas County, particularly Portola and surrounding areas, in the short term (2007–2011) compared to both the existing conditions and future No Project/No Action conditions. Many residents and businesses in the vicinity of Lake Davis are dependent on tourism and recreation income related to the reservoir. These may also include the low-income residents, whose incomes could be further decreased due to the temporary closure of recreation facilities.

As discussed in Section 12.2.4, the Proposed Project is expected to result in an estimated loss of \$0.46 to \$0.58 million in output, \$0.27 to \$0.34 million in income, and 11 to 13 annual jobs during the project implementation period in comparison with current conditions and No Project/No Action. This represents about 21.2 to 26.6 percent decline in average annual economic activity compared with existing economic conditions. Assuming that these full-time and part-time jobs would be lost evenly among all income classes, it is expected that 14.5 percent of the lost jobs would be from people already living under the Federal poverty level. This amounts to about two jobs annually. Furthermore, these impacts would be in part reduced by the mitigation efforts identified in Section 11.2.12, Recreational Resources.

Additionally, the anticipated decline in recreation activities due to the Proposed Project in the short term may result in a reduction of \$10,000 to \$12,600 in average annual tax revenues compared to existing conditions between 2007 and 2011, accounting for less than 1.0 percent of the average annual operating budget of the City of Portola.

Over the long term, however, communities within the project area, including low-income groups, are expected to gain in terms of output, income, and employment compared to future No Project/No Action conditions.³ This result is expected due to increases in recreation income that would accompany increased recreation participation after pike eradication (see Section 12.2.4). The Proposed Project represents an estimated gain of approximately \$0.19 to \$0.22 million in output, \$0.11 to \$0.13 million in income, and 4 to 5 additional annual jobs compared to the No Project/No Action Alternative over the next 20-years.

³ Comparison of the Proposed Project/Proposed Action to the No Project/No Action alternative presents a better indicator of economic impacts than a comparison with existing conditions. This is because the existing conditions are not likely to continue in the future, but rather decline adversely as described in the No Project/No Action alternative.

Additionally, long-term, low-cost recreation opportunities would be improved with this and all project alternatives.

The real estate market may be adversely impacted in the short term because of a negative stigma effect among prospective buyers associated with a loss of aesthetic and recreational qualities of Lake Davis. However, the extent of such an impact is expected to be slight, if measurable at all. Community services in Portola and Plumas County may also be adversely impacted in the short term due to decreased tax revenues that support such services, and then positively affected by an increase in average annual fiscal revenues, estimated to be \$4,200 to \$4,800 (or 9.5 to 11 percent) more than the No Project/No Action alternative over a 20-year period. This could impact the low-income population more (both the short-term loss and long-term gain), as they are relatively more dependent upon social services. Presently, little, if any, subsistence fishing is taking place at Lake Davis. However, opportunities for this may develop in the long-term as the population of trout and other desirable fish species grow in the absence of pike.

Opportunities for firewood collection by low-income persons would be reduced in the short term but not eliminated, due to forest closure for up to 45 days. However, other PNF roads would be accessible for firewood collection during this period.

Impact EJ-1: In the long term, the Proposed Project/Proposed Action would lead to increased economic output, income, and employment in the project area after treatment and neutralization because of higher recreation levels over a 20-year period. The impacts are expected to improve output, income, employment, and fiscal resources when compared with the No Project alternative. This beneficial impact on local economic conditions is favorable in terms of environmental justice, since the project area is already identified as having a disproportionately larger low-income population than the county.

Impact EJ-2: In the short term, adverse impacts on local businesses dependent on Lake Davis based recreation and tourism are likely. In terms of environmental justice, it is anticipated that at most about two people might lose recreation related employment for the project implementation period of two to three years. These impacts are not substantial.

Impact EJ-3: Recreational fishing opportunities for low-income people would be negatively affected during drawdown, but positively affected in the long term.

15.2.5 Alternative A – 15,000 Acre-Feet (Plus Treatment Including Powder)

Under Alternative A, the water level in Lake Davis would be lowered to 15,000 acre-feet. Alternative A is similar to the Proposed Project except a powdered form of rotenone would be used in the reservoir, and liquid rotenone would be applied to the tributary streams, pools, ponds, or springs in the watershed that could contain pike. Powdered rotenone has a different chemical composition from liquid rotenone and has no potential odor. However, the use of powdered rotenone creates more of a hazard for applicators and resources needed for applicator safety.

Impact EJ-4: Alternative A would have less-than-substantial adverse environmental justice impacts similar to the Proposed Project/Proposed Action in the short term. This is attributed to the potential adverse impacts on recreation economic values during this period. In terms of environmental justice, it is anticipated that at most about two people might lose recreation related employment for the project implementation period of two to three years. However, over the long term, beneficial impacts are expected, with the magnitude of impacts similar to that expected in the Proposed Project. This implies an increase in recreation related economic output, income, and employment in the project area over a period of 20 years compared with the No Project/No Action alternative. This result is favorable in terms of environmental justice concerns. Impacts to low-income recreational fishing opportunities are similar to the Proposed Project (Impact EJ-3).

15.2.6 Alternative B – 5,000 Acre-Feet (Plus Treatment)

Under Alternative B, water level in Lake Davis would be lowered to 5,000 acre-feet. The reservoir and tributaries would be treated with liquid rotenone to eradicate the population of pike. Project implementation would commence with reservoir drawdown beginning in January 2007, followed by rotenone application between mid-August and late October of 2007.

Impacts on recreation in the short term are similar to those from the Proposed Project, except that the impacts are expected to be slightly more severe due to a longer duration of drawdown than expected with the Proposed Project. Similar to the Proposed Project, Alternative B may adversely impact the economy of Plumas County, particularly Portola and surrounding areas, in the short term compared to both the existing conditions and future No Project/No Action conditions.

As discussed in Section 12.2.6, Alternative B is expected to result in an estimated loss of \$0.54 to \$0.78 million in output, \$0.32 to \$0.46 million in income, and 12 to 18 annual jobs, on an average annual basis over the initial five-year period in comparison with current conditions. This represents about 24.5 to 35.4 percent decrease in average annual economic activity relative to existing conditions. Assuming that these full-time and part-time jobs would be lost evenly among all income classes, it is expected that 14.5 percent of the jobs would be lost to people already living under the Federal poverty level. This amounts to two to three jobs annually. Furthermore, these impacts would be in part reduced by the mitigation efforts identified in Section 11.2.12, Recreational Resources.

Additionally, the anticipated decline in recreation activities due to this alternative in the short term may result in a reduction of \$11,600 to 16,700 in tax revenues, on an average annual basis, compared to existing conditions between 2007 and 2011, accounting for approximately less than 1.0 percent of the average annual operating budget of the City of Portola. Impact on local property values would be similar to that under the Proposed Project, but may be over a longer period of time since it would take longer to refill the reservoir.

Over a 20-year period, however, Alternative B is expected to increase output by \$0.14 to \$0.20 million, income by \$84,900 to \$0.12 million, and jobs by 3 to 5 relative to No Project. Community services in Portola and Plumas County may also be adversely impacted in the

short term due to decreased tax revenues that support such services, and then positively affected by the increase in average annual fiscal revenues, estimated to be \$3,100 to \$4,400 (7.1 to 10.0 percent) more than the No Project/No Action Alternative, over a 20-year period. This could impact the low-income population more (both the short-term loss and long-term gain), as they are relatively more dependent upon social services (see Section 12.2.6 for details). At present, little or no subsistence fishing is taking place at Lake Davis. However, opportunities for more subsistence fishing may develop in the long term as the population of trout and other desirable fish species grow in the absence of pike.

Impact EJ-5: Alternative B would have slightly greater adverse environmental justice impacts than the Proposed Project/Proposed Action in the short term, due to the longer drawdown period. In terms of environmental justice, it is anticipated that at most two to three people might lose recreation related employment for the project implementation period of three to four years. In the long term, however, the alternative would lead to increased economic output, income, and employment in the project area after treatment and neutralization because of higher recreation levels. This is a beneficial impact on local economic conditions and would likewise be beneficial for environmental justice concerns. Impacts to low-income recreational fishing opportunities are similar to the Proposed Project (Impact EJ-3).

15.2.7 Alternative C – 35,000 Acre-Feet (Plus Treatment)

Under Alternative C, the water level in Lake Davis would be lowered to 35,000 acre-feet. The reservoir and tributaries would be treated with liquid rotenone to eradicate the population of pike. The main differences between Alternative C and the Proposed Project and Alternatives A and B are: the amount of time required for drawdown, the resulting reservoir size (both surface area and volume), the length of the tributary streams to be treated, the resulting amount of rotenone required, and the project duration. The duration of the drawdown includes the time from commencement of drawdown, through the treatment period, until Lake Davis is refilled to a 45,000 acre-foot level.

Impacts of Alternative C on the low-income community in the project area are similar to those of the Proposed Project. In the short-term losses would be experienced, but over the long-term economic benefits are expected (see Section 12.2.7). Recreational fishing opportunities would decline in the short term and improve in the long term.

Similar to the Proposed Project, Alternative C may adversely impact the economy of Plumas County, particularly Portola and surrounding areas, in the short term compared to both the existing conditions and future No Project/No Action conditions. As discussed in Section 12.2.7, Alternative C is expected to result in average annual estimated losses of \$0.46 to \$0.52 million in output, \$0.27 to \$0.31 million in income, and 11 to 12 annual jobs during the project implementation period in comparison with current conditions. This represents about 21.2 to 23.9 percent decrease in average annual economic activity relative to existing conditions. Assuming that these full-time and part-time jobs would be lost evenly among all income classes, it is expected that 14.5 percent of the jobs would be lost to people already living under the federal poverty level. This amounts to about two jobs annually. Furthermore, these impacts would be reduced by the mitigation efforts identified in Section 11.2.12, Recreational Resources.

Additionally, the anticipated decline in recreation activities due to this alternative in the short term may result in a reduction of \$10,000 to 11,300 in average annual tax revenues compared to existing conditions between 2007 and 2011, accounting for less than 1.0 percent of the annual operating budget of the City of Portola.

Over the long term, the low-income community within the project area is expected to gain in terms of output, income, and employment compared to future No Project conditions. This result is expected from increases in recreation income that would accompany increased recreation participation after pike eradication (see Section 12.2.7). Alternative C represents an estimated gain of approximately \$0.21 to \$0.23 million in output, \$0.12 to \$0.13 million in income, and 5 additional annual jobs over the No Project/No Action Alternative over the next 20-years.

Similar to the Proposed Project, the real estate market may be adversely impacted in the short term because of a negative stigma effect among prospective buyers due to the loss of aesthetic and recreational qualities of Lake Davis. However, the extent of such an impact is expected to be slight, if measurable at all. Compared to the Proposed Project, the impact on local property values may occur over a shorter period of time, since it would take less time to refill the reservoir. Additionally, community services in Portola and Plumas County may be adversely impacted in the short term due to decreased tax revenues that support such services, and then positively affected by the increase in average annual fiscal revenues, estimated to be \$4,500 to \$4,800 (10.2 to 11 percent) more than the No Project/No Action Alternative, over the 20-year period. This could impact the low-income population more (both the short-term loss and long-term gain), as they are relatively more dependent upon social services. As with the Proposed Project and Alternatives A and B, Alternative C potentially provides opportunities for subsistence fishing in the future.

Impact EJ-6: Alternative C would have adverse environmental justice impacts similar to the Proposed Project/Proposed Action in the short term. In terms of environmental justice, it is anticipated that at most two people might lose recreation related employment for the project implementation period of two to three years. In the long term, the alternative would lead to increased economic output, income, and employment in the project area after treatment and neutralization because of higher recreation levels. This is a beneficial impact on local economic conditions and would, therefore, be beneficial for environmental justice concerns. Impacts to low-income recreational fishing opportunities are similar to the Proposed Project (Impact EJ-3).

15.2.8 Alternative D – 48,000 Acre-Feet (Plus Treatment)

Under Alternative D, the water level in Lake Davis would be managed to 48,000 acre-feet similar to current levels. The reservoir would be treated with liquid rotenone to eradicate the population of pike. Alternative D differs from the above alternatives in the amount of time required for drawdown, the resulting surface area and volume of the reservoir, the length of the tributary streams to be treated, the resulting amount of rotenone required, and the project duration. The project duration includes the time from commencement of drawdown, through the treatment period. Because a volume of 48,000 acre-feet would be maintained, no drawdown or refill operations would be required.

Alternative D has a slightly smaller adverse economic and recreational fishing impact than the Proposed Project over the short term (see Section 12.2.8), since there is no drawdown and refill of the reservoir. Similar to the Proposed Project, losses would be experienced during the project implementation period, but long-term economic benefits are anticipated.

In the short term, Alternative D may adversely impact the economy of Plumas County, particularly Portola and surrounding areas, compared to both the existing and future No Project conditions. As discussed in Section 12.2.8, this alternative is expected to result in estimated average annual losses of \$0.43 million in output, \$0.25 million in income, and 10 annual jobs during the project implementation period compared with existing conditions within the recreation sector. This represents a decline of about 19.7 percent in average annual economic activity relative to existing conditions. Assuming that these full-time and part-time jobs would be lost evenly among all income classes, it is expected that 14.5 percent of the jobs would be lost to people already living under the Federal poverty level. This amounts to about two jobs annually. Furthermore, these impacts would be reduced by the mitigation efforts identified in Section 11.2.12, Recreational Resources.

Additionally, the anticipated decline in recreation activities due to this alternative in the short term may result in a reduction of \$9,300 in average annual tax revenues between 2007 and 2011, compared to existing conditions, accounting for less than 1.0 percent of the average annual operating budget of the City of Portola.

Over the long term, however, the low-income community within the project area is expected to gain in terms of output, income, and employment compared to future No Project conditions. This result is expected due to increases in recreation income that would accompany increased recreation participation after pike eradication (see Section 12.2.8). Over a 20-year period, Alternative D is expected to increase output by \$0.24 million, income by \$0.14 million, and jobs by 5 compared with the No Project/No Action conditions.

While impact on local property values would be similar to Proposed Project, there would be no short-term adverse effects on property values since the reservoir would be fully operational at 48,000 acre-feet volume, and would only be closed during treatment. Additionally, community services in Portola and Plumas County may also adversely impacted in the short term due to decreased tax revenues that support such services, and then positively affected by the increase in average annual fiscal revenues, estimated to be \$5,100 (11 percent) more than the No Project/No Action Alternative, over the 20-year period. This could impact the low-income population more (both the short-term loss and long-term gain), as they are relatively more dependent upon social services. In the future, opportunities for subsistence fishing may develop as the population of trout and other desirable fish species grow in the absence of pike.

Impact EJ-7: Alternative D would have temporary short-term adverse environmental justice impacts similar to the Proposed Project/Proposed Action, but these are less-than-substantial because the reservoir would be fully operational at 48,000 acre-feet volume, and recreation and tourism would only be affected during the treatment and neutralization period. In the long term, the alternative would lead to increased economic output, income, and employment in the project area after treatment and neutralization because of higher recreation levels. This is a beneficial impact on local economic conditions and would, therefore, be beneficial for environmental justice

concerns. Impacts to recreational fishing opportunities for low-income people would be limited only to the up to 45 day treatment and neutralization period.

15.2.9 Alternative E – Dewater Reservoir and Tributaries (No Chemical Treatment)

Under Alternative E, Lake Davis would be completely drained and all tributary waters would be dewatered to eradicate the population of pike. Under this alternative, no chemical treatment would be used, and therefore any potential risks to human health and terrestrial species from the use of rotenone would not occur.

Recreation over the 20-year period is expected to be lowest of all alternatives under Alternative E. The economic impacts of this alternative are very similar to Alternative B, since both alternatives require a longer time to refill Lake Davis.

Similar to Alternative B, Alternative E may adversely impact the economy of Plumas County, particularly Portola and surrounding areas, in the short term compared to both the existing conditions and future No Project/No Action conditions. As discussed in Section 12.2.9, Alternative E is expected to result in estimated average annual losses of \$0.54 to \$0.82 million in output, \$0.31 to \$0.48 million in income, and 12 to 19 annual jobs over the initial five year period in comparison with existing conditions. Assuming that these full-time and part-time jobs would be lost evenly among all income classes, it is expected that 14.5 percent of the jobs would be lost to people already living under the Federal poverty level. This amounts to two to three jobs annually. Furthermore, these impacts would be reduced by the mitigation efforts identified in Section 11.2.12, Recreational Resources.

Additionally, the anticipated decline in recreation activities due to this alternative in the short term may result in a reduction of \$11,600 to \$17,700 (-24.5 to -37.4 percent) in average annual tax revenues, compared to existing conditions, between 2007 and 2011. This amount accounts for less than 1.0 percent of the average annual operating budget of the City of Portola. Impact on local property values would be similar to that under the Alternative B, but may be over a longer period of time since it would take longer to refill the reservoir.

Over a 20-year period, however, Alternative E is expected to increase output by \$0.13 to \$0.21 million, income by \$77,000 to \$0.12 million, and jobs by 3 to 5 over No Project. Community services in Portola and Plumas County may also be adversely impacted in the short term due to decreased tax revenues that support such services, and then positively affected by the increase in average annual fiscal revenues, estimated to be about \$2,800 to \$4,500 (6.4 to 10.3 percent) more than the No Project alternative, over the 20-year period. This could impact the low-income population more (both the short-term loss and long-term gain), as they are relatively more dependent upon social services (see Section 12.2.9 for details). Opportunities for recreational and subsistence fishing may develop in the long term, thus providing a low cost alternative source of protein for low-income populations.

Impact EJ-7: Alternative E would have temporary short-term adverse environmental justice impacts similar to the Proposed Project/Proposed Action. In terms of environmental justice, it is anticipated that at most three people might lose recreation related employment for the project implementation period of five years. Over the long term, there would be economic gains that would benefit low-income people. Also, since

this alternative does not include chemical treatment, the human health effects would be limited to those resulting from decaying fish, so the impact on environmental justice is not substantial.

15.2.10 Cumulative Impacts

The analysis of cumulative impacts relative to environmental justice is based on the contribution of project effects, in conjunction with effects of past, present and reasonably foreseeable actions, on environmental justice parameters. Many of these relate closely to the economic analysis completed in Section 12. Also, see Section 12.2.10 for cumulative economic impacts. The parameters included here are income and poverty levels and racial composition for the local and Plumas County populations. The key issues addressed are those discussed in Section 12:

- Whether affected resources were, are, or are likely to be used by low-income or minority groups;
- Whether low-income or minority groups are disproportionately affected to environmental justice factors; and
- Whether the affected resources support subsistence living.

Based on 1999 data, 9.0 percent of families in Plumas County and 11.6 percent of families in Portola were below the poverty level. As discussed in Section 15.1.3, the poverty rate in Portola, 14.5 percent, is substantially higher than that in Plumas County overall, at 9.0 percent; or of California, at 10.6 percent. In addition, based on 2000 data, 8.2 percent of individuals in Plumas County were in minority or combined races, while the corresponding number for Portola was 11.2 percent.

The primary impacts to income and poverty levels related to past, present, or reasonably foreseeable projects are those which affect recreation and tourism activity at Lake Davis and the local area. Recreation and tourism are key sectors in the local economy, and any activity which directly affects businesses involved in those sectors has impacts extending to other businesses in the local area. With respect to past relevant projects, likely the most important was the attempted eradication of pike by the DFG in 1997. The results of that effort impacted many businesses in the area because recreation and tourism were adversely affected.

Definition of Analysis Area

The primary uses of Lake Davis include recreation, water supply for Portola and Grizzly Lake Resort Improvement District (GLRID), irrigation water supply, and the benefit of fish and wildlife (including the DFG managed trout fishery). Based on these uses, the project may potentially impact the residents of Portola and other unincorporated areas in the vicinity of the reservoir, the population of visitors that visit the reservoir for recreation purposes, local business owners, and farmers. These may also include low-income and minority groups. Many residents and businesses in Portola and surrounding areas are dependent on tourism and recreation income related to Lake Davis. Further, recreation income affects fiscal revenues that support social services for the local communities.

The analysis in Section 15.2.2 reveals that low-income populations could potentially be disproportionately affected by the pike eradication efforts. The scope of analysis for cumulative impacts is, therefore, low-income groups in Portola, and the communities of Lake Davis, Beckwourth, Delleker, and Iron Horse, areas nearest in proximity to Lake Davis in Plumas County.

List of Projects Considered in the Cumulative Effects Analysis

Similar to Section 12, Economic Resources, the past, present, and planned projects listed below are being considered in the cumulative impacts analysis of environmental justice. The analysis takes into account all projects and activities identified in the cumulative project list developed for this project. Since these projects are primarily located in the project area and vicinity, these require some level of local expenditures and labor requirements, and therefore, generate some level of economic impact leading to environmental justice impacts.

- DWR Containment project MND/IS
- City of Portola well-drilling
- City of Portola Treatment Plant
- DBW Ramp Extensions
- Whitetop weed spraying by Forest Service
- Paiute Cutthroat Trout Recovery Project
- Humbug DFPZ
- Deer Roadside Hazard Salvage
- Smitty Roadside Hazard Salvage
- Grazing Allotments
- Knuston-Vanderberg Cultural Projects
- Public Fuelwood Permits
- Little Summit Lake Post and Pole Permits
- Recreation Facilities Maintenance and Improvements
- Public Fuelwood Permits
- Pike Eradication by DFG
- Grizzly Ranch Development Project
- Watershed Restoration Projects
- Westside Lake Davis Watershed restoration project
- Humbug DFPZ
- Long Valley KV

- Hazard Tree Removal
- DFPZ maintenance
- FS Road 24N10 Chip Seal Project
- Cutoff project
- Mt. Ingalls project
- Woodbridge development

However, since it was not possible to obtain data on all of the cumulative projects considered here, the analysis of cumulative environmental justice impacts is qualitative in nature.

Cumulative Effects Analysis for the Proposed Project

Under the Proposed Project/Proposed Action, the water level in Lake Davis would be lowered to 15,000 acre-feet. As noted in Section 12, Economic Resources, assuming the pike are successfully eradicated from Lake Davis, the economic impacts of the Proposed Project would be beneficial because of higher output, income, and employment in the area. These increases should benefit rather than adversely impact the low-income residents by positively impacting job opportunities and income through increased recreation spending.

From a cumulative standpoint, it is safe to assume that projects involving larger capital investments, especially on capital goods and equipment, can potentially generate higher levels of direct economic benefits relative to smaller projects. Some of the large scale projects currently underway or planned include the Plumas County Water Treatment Plant, Grizzly Ranch Development Project, and Woodbridge at Portola residential development. The Grizzly Ranch Development Project includes 380 residential homes on 1,042 acres of land with an integrated golf course and jurisdictional wetlands. The project can potentially boost the local economy through expenditures on capital goods. Other projects, such as the DBOW ramp extensions and recreational facility improvements at Lake Davis, can have induced impacts on the local economy. These projects can not only benefit the low-income communities through provision of employment opportunities during construction phases, but could lead to better economic conditions for all income groups through improving the local economy in general. For example, the DBW boat ramp extension project has the potential to attract more tourism that can fuel the economy for the benefit of local communities.

Another cumulative project, the prior pike eradication attempt in 1997, did have an adverse economic impact on the local economy, including low-income residents. However, the projected economic benefits following the successful eradication of pike from Lake Davis would help offset these adverse historical impacts.

While the EIR/EIS does not quantify the impact of the proposed pike eradication efforts on property values based on the speculative nature of such an analysis, it acknowledges that a short term, less-than-substantial, adverse impact on property values may occur during the project implementation phase. In terms of cumulative impacts, most of the projects can potentially have a positive effect on property values. For example, the Grizzly Ranch Development Project and Woodbridge projects entail the development of new homes with relatively higher values than existing homes, while the Grizzly Ranch Development Project

will comprise of a golf course that can generate amenity values from the local housing base. Also, infrastructure improvement projects like the Plumas County Water Treatment Plant and recreational improvements at Lake Davis could also positively influence property values. However, while higher property values indicate economic progress, these can also potentially reduce the housing opportunities for low-income residents, who may not be able to afford quality housing. The cumulative impacts on housing affordability are uncertain and not quantified for this analysis.

In the short term, however, adverse impacts are likely on local businesses dependent on recreation and tourism, as well as tourists and recreationists. However, it is not known to what extent the affected local businesses or individuals are low-income. Moreover, the long-term benefits discussed in Section 12, Economic Resources, may offset such impacts. Consequently, the cumulative environmental justice impacts would not be substantial in the short term.

In summary, the Proposed Project would incrementally add to the economic and fiscal benefits being generated in the region over time despite adverse economic and fiscal impacts in the short term. It would also help offset the adverse economic effects that were, or could be, generated by certain projects in the long term. Overall, the Proposed Project would have beneficial cumulative economic impacts and, thus, beneficial cumulative environmental justice impacts.

Cumulative Effects Analysis for Alternative A

Under this alternative, the water level in Lake Davis would be lowered to 15,000 acre-feet. The cumulative environmental justice impacts would be similar to those for the Proposed Project, but somewhat greater because of the longer time required for draining and refilling the reservoir.

Cumulative Effects Analysis for Alternative B

Under this alternative, the water level in Lake Davis would be lowered to 5,000 acre-feet before treatment. The cumulative environmental justice impacts would be similar to those for the Proposed Project, but somewhat greater because of the longer time required for draining and refilling the reservoir.

Cumulative Effects Analysis for Alternative C

Under this alternative, the water level in Lake Davis would be lowered to 35,000 acre-feet. The cumulative environmental justice impacts would be similar to those for the Proposed Project, but somewhat less because of the shorter time required for draining and refilling the reservoir.

Cumulative Effects Analysis for Alternative D

Under this alternative, the water level in Lake Davis would be maintained to 48,000 acre-feet and there would be no incremental environmental justice impacts, similar to those for the

Proposed Project, although somewhat less because no time would be required for draining and refilling the reservoir.

Cumulative Effects Analysis for Alternative E

Under this alternative, Lake Davis would be dewatered in an attempt to eradicate the pike without chemical treatment. The cumulative environmental justice impacts would be similar to those for the Proposed Project, but somewhat more considerable because of the longer time required for draining and refilling the reservoir.

15.2.11 Environmental Impacts Summary

The analysis Section 15 reveals that minorities, including varying racial and ethnic groups, are not disproportionately adversely impacted by the project. Areas having a composition of minority populations greater than the Plumas County levels are few and scattered around the project area. The analysis has not shown any considerable concentrations of minority population.

In terms of low-income groups, there are three Census block groups with poverty rates higher than Plumas County and the State of California. Portola and Iron Horse are located in these areas. Since the majority of the population in the vicinity of the project area resides in Portola, these groups may be disproportionately affected in the short term during project implementation. However, in the long term, following the successful eradication of pike from Lake Davis, this population segment and all others would benefit in economic terms.

A summary of environmental justice impacts in the short and long terms is presented in Table 15.2-3. The baseline from which No Project/No Action impacts are measured is the existing conditions, assuming that these prevail. However, if no actions are taken to eradicate pike population from Lake Davis, there would be adverse impacts (as compared with existing conditions) on the recreation economy over the next 20 years. That is with the No Project/No Action alternative, there is an anticipated long-term decrease in the recreation economy compared with existing conditions. These impacts are determined to be adverse but not substantial to the identified low-income study area group. The Proposed Project and all five alternatives would have less-than-substantial adverse impacts on the recreation economy in the short term, primarily due to forest closures. In the long-term, the successful eradication of pike through the Proposed Project or any of the five alternatives would result in an improved recreation economy in the vicinity of Lake Davis over the 20-year period. Thus, there will overall be beneficial impacts on environmental justice in the long term from all of these actions.

Although the short-term impacts include some temporary economic and recreational fishing losses potentially affecting the low-income population of Portola and its surrounding areas, the long-term gains from the project are also expected to affect the same population. Furthermore, this population is poised to experience adverse impacts if no action is taken. Therefore, no alternative is expected to result in substantial adverse impacts in terms of Environmental Justice. There are several other points that clarify this result:

- The short-term impacts are temporary, and the same population that experiences short-term losses is expected to also benefit from the long-term gains.
- All of the environmental justice impacts potentially affecting the low-income population of Portola are linked to recreational expenditures. As described in Section 11, Recreation Resources, several mitigation efforts would be undertaken in conjunction with this project providing alternative recreational resources to the community. In doing so, this would also provide substitute recreational expenditures.
- Some recreationists are expected to be displaced to Frenchman Lake, which is also within Plumas County, and would continue to provide expenditures that affect the regional economy.
- The short-term employment impacts range from a temporary loss of 23 full- and part-time jobs, to a high of 40. These impacts represent the worst case scenarios, and are only expected to occur for two to three years.
- Assuming that the temporary employment losses are distributed equally across the household income spectrum for Portola, Lake Davis, Beckwourth, Delleker, and Iron Horse, then approximately 14.5 percent of the employment losses would occur within the households that were in poverty status in 2000. This brings the worst case impact scenario to at most between two and three jobs in Portola and surrounding areas that are expected to impact low-income households. While these temporary job losses may occur in the low-income communities, the magnitude of job loss is not substantial.

Table 15.2-3. Summary Comparison of Impacts of Alternatives

Affected Resource and Area of Potential Impact	Alternative													
	No Project Compared to Existing Conditions		Proposed Project		A		B		C		D		E	
	Short Term	Overall	Short Term	Overall	Short Term	Overall	Short Term	Overall	Short Term	Overall	Short Term	Overall	Short Term	Overall
Social Issues & Environmental Justice														
1. Economic impacts on low-income population	N	A	A	B	A	B	A	B	A	B	A	B	A	B
2. Recreational Fishing opportunities for low- income population	A	A	A	B	A	B	A	B	A	B	A	B	A	B

Key:

- A = Adverse Impact (NEPA)
 B = Beneficial Impact (NEPA)
 N = No Impact (CEQA, NEPA)